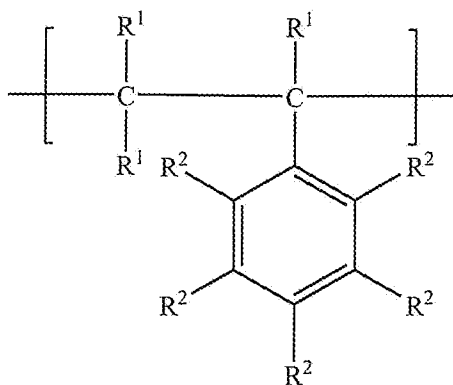


Claims: -

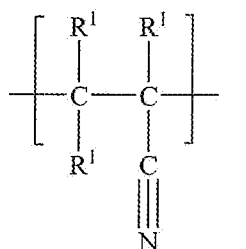
1. (Withdrawn) A microelectronic structure comprising:
- a microelectronic substrate surface; and
- a first protective layer adjacent said substrate surface, said first protective layer including a polymer comprising recurring monomers having the respective formulas

(I)



and

(II)



wherein:

each  $R^1$  is individually selected from the group consisting of hydrogen and  $C_1$ - $C_8$  alkyls; and

each  $R^2$  is individually selected from the group consisting of hydrogen,  $C_1$ - $C_8$  alkyls, and  $C_1$ - $C_8$  alkoxys,

said layer being essentially nonconductive.

2. (Withdrawn) The structure of claim 1, wherein said polymer comprises at least about 50% by weight of monomer I, based upon the total weight of the polymer taken as 100% by weight.

3. (Withdrawn) The structure of claim 1, wherein said polymer comprises at least about 15% by weight of monomer (II), based upon the total weight of the polymer taken as 100% by weight.

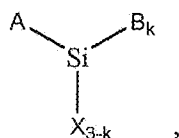
4. (Withdrawn) The structure of claim 1, said first protective layer having an average thickness of from about 1-5  $\mu\text{m}$ .

5. (Withdrawn) The structure of claim 1, said structure further comprising a primer layer intermediate said substrate and said first protective layer.

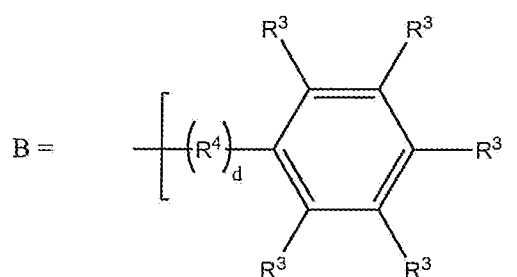
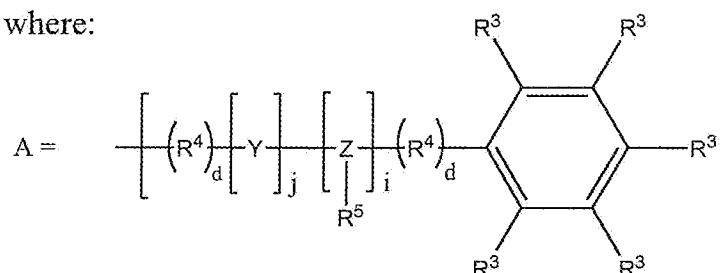
6. (Withdrawn) The structure of claim 5, said primer layer having an average thickness of less than about 10 nm.

7. (Withdrawn) The structure of claim 5, said primer layer comprising a silane.

8. (Withdrawn) The structure of claim 7, said silane having the structure



where:



each of i, j, and k is individually selected from the group consisting of 0 and 1, and if one of i and j is 1, then the other of i and j is 0;

each  $R^3$  is individually selected from the group consisting of hydrogen, the halogens,  $C_1$ - $C_8$

alkyls,  $C_1$ - $C_8$  alkoxys,  $C_1$ - $C_8$  haloalkyls, aminos, and  $C_1$ - $C_8$  alkylaminos;

each  $R^4$  is individually selected from the group consisting of  $C_1$ - $C_8$  aliphatic groups;

each X is individually selected from the group consisting of halogens, hydroxyls,  $C_1$ - $C_4$

alkoxys and  $C_1$ - $C_4$  carboxyls;

Y is selected from the group consisting of oxygen and sulfur;

Z is selected from the group consisting of nitrogen and phosphorus; and

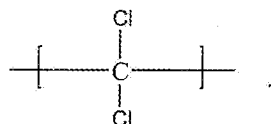
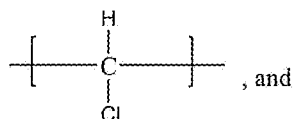
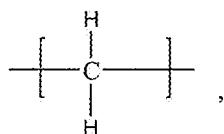
each d is individually selected from the group consisting of 0 and 1.

9. (Withdrawn) The structure of claim 1, said structure further comprising a second protective layer adjacent said first protective layer.

10. (Withdrawn) The structure of claim 9, said second protective layer comprising a halogenated polymer.

11. (Withdrawn) The structure of claim 10, said halogenated polymer comprising at least about 50% by weight halogen atoms, based upon the total weight of the halogenated polymer taken as 100% by weight.

12. (Withdrawn) The structure of claim 10, wherein said halogenated polymer is a chlorinated polymer comprising recurring monomers having the formula



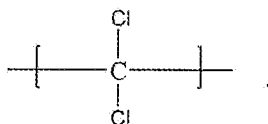
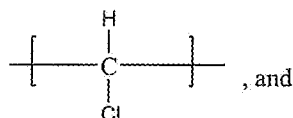
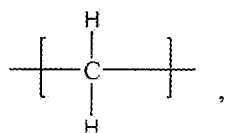
13. (Withdrawn) The structure of claim 10, wherein said halogenated polymer is a chlorinated polymer selected from the group consisting of poly(vinyl chloride), polyvinylidene chloride, poly(vinylidene dichloride)-co-poly(vinyl chloride), chlorinated ethylene, chlorinated propylene, chlorinated rubbers, and mixtures thereof.

14. (Withdrawn) The structure of claim 5, said structure further comprising a second protective layer adjacent said first protective layer.

15. (Withdrawn) The structure of claim 14, said second protective layer comprising a halogenated polymer.

16. (Withdrawn) The structure of claim 15, said halogenated polymer comprising at least about 50% by weight halogen atoms, based upon the total weight of the halogenated polymer taken as 100% by weight.

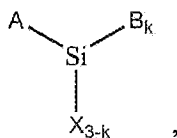
17. (Withdrawn) The structure of claim 15, wherein said halogenated polymer is a chlorinated polymer comprising recurring monomers having the formula



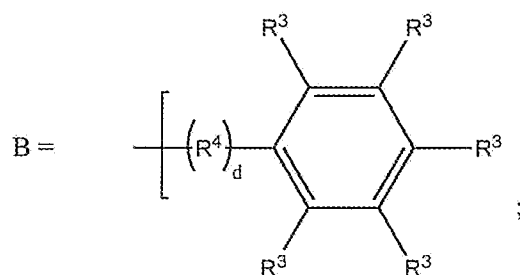
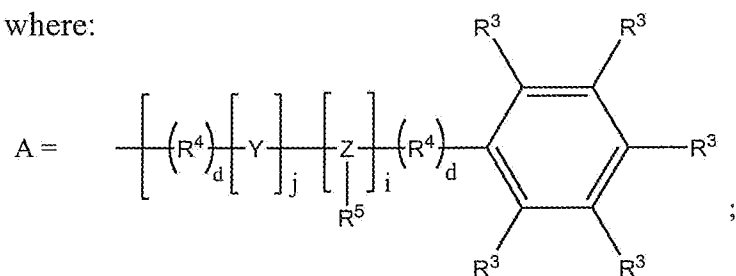
18. (Withdrawn) The structure of claim 15, wherein said halogenated polymer is a chlorinated polymer selected from the group consisting of poly(vinyl chloride), polyvinylidene chloride, poly(vinylidene dichloride)-co-poly(vinyl chloride), chlorinated ethylene, chlorinated propylene, chlorinated rubbers, and mixtures thereof.

19. (Withdrawn) The structure of claim 14, said primer layer comprising a silane.

20. (Withdrawn) The structure of claim 19, said silane comprising the structure



where:



each of i, j, and k is individually selected from the group consisting of 0 and 1, and if one of

i and j is 1, then the other of i and j is 0;

each  $\text{R}^3$  is individually selected from the group consisting of hydrogen, the halogens,  $\text{C}_1\text{-C}_8$

alkyls,  $\text{C}_1\text{-C}_8$  alkoxys,  $\text{C}_1\text{-C}_8$  haloalkyls, aminos, and  $\text{C}_1\text{-C}_8$  alkylaminos;

each  $\text{R}^4$  is individually selected from the group consisting of  $\text{C}_1\text{-C}_8$  aliphatic groups;

each X is individually selected from the group consisting of halogens, hydroxyls, C<sub>1</sub>-C<sub>4</sub> alkoxys and C<sub>1</sub>-C<sub>4</sub> carboxyls;

Y is selected from the group consisting of oxygen and sulfur;

Z is selected from the group consisting of nitrogen and phosphorus; and

each d is individually selected from the group consisting of 0 and 1.

21. (Withdrawn) The structure of claim 14, wherein said primer layer comprises an aromatic silane, and said second protective layer comprises a halogenated polymer.

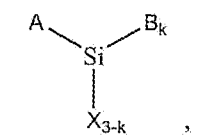
22. (Withdrawn) The structure of claim 1, wherein said microelectronic substrate is selected from the group consisting of Si substrates, SiO<sub>2</sub> substrates, Si<sub>3</sub>N<sub>4</sub> substrates, SiO<sub>2</sub> on silicon substrates, Si<sub>3</sub>N<sub>4</sub> on silicon substrates, glass substrates, quartz substrates, ceramic substrates, semiconductor substrates, and metal substrates.



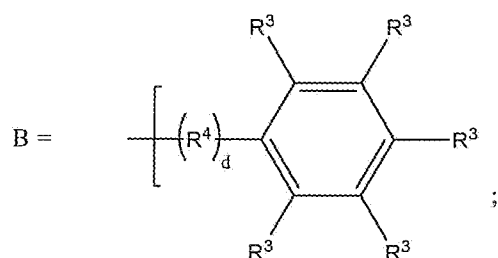
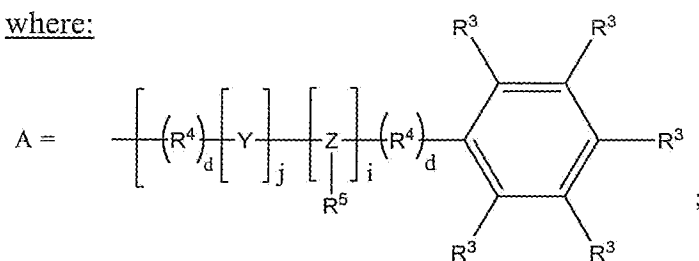
23. (Currently Amended) A microelectronic structure comprising:

a microelectronic substrate having a surface;

a primer layer adjacent said substrate surface, said primer layer comprising a silane having the structure



where:



each of i, j, and k is individually selected from the group consisting of 0 and 1, and

if one of i and j is 1, then the other of i and j is 0;

each R<sup>3</sup> is individually selected from the group consisting of hydrogen, the halogens,

C<sub>1</sub>-C<sub>8</sub> alkyls, C<sub>1</sub>-C<sub>8</sub> alkoxy, C<sub>1</sub>-C<sub>8</sub> haloalkyls, aminos, and C<sub>1</sub>-C<sub>8</sub>

alkylaminos;

each R<sup>4</sup> is individually selected from the group consisting of C<sub>1</sub>-C<sub>8</sub> aliphatic groups;

each X is individually selected from the group consisting of halogens, hydroxyls, C<sub>1</sub>-

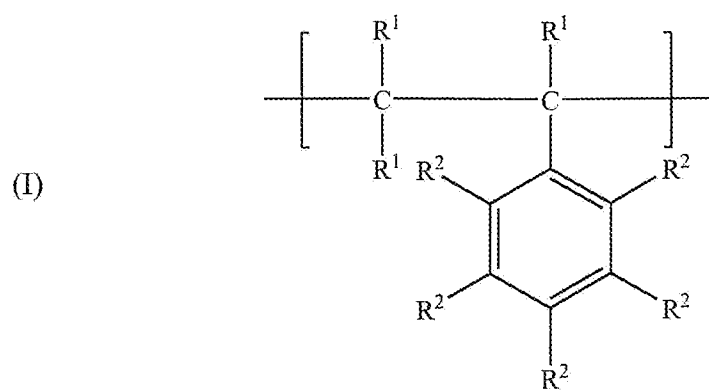
C<sub>4</sub> alkoxy and C<sub>1</sub>-C<sub>4</sub> carboxyls;

Y is selected from the group consisting of oxygen and sulfur;

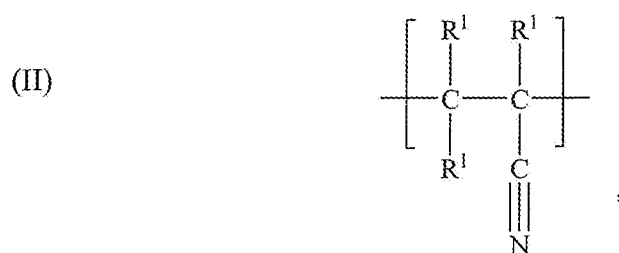
Z is selected from the group consisting of nitrogen and phosphorus; and

each d is individually selected from the group consisting of 0 and 1; and

a first protective layer adjacent said primer layer, said first protective layer including a polymer comprising recurring monomers having the respective formulas



and



wherein:

each  $R^1$  is individually selected from the group consisting of hydrogen and

$C_1$ - $C_8$  alkyls; and

each  $R^2$  is individually selected from the group consisting of hydrogen,  $C_1$ - $C_8$

alkyls, and  $C_1$ - $C_8$  alkoxys.

24. (Original) The structure of claim 23, wherein said polymer comprises at least about 50% by weight of monomer I, based upon the total weight of the polymer taken as 100% by weight.

25. (Original) The structure of claim 23, wherein said polymer comprises at least about 15% by weight of monomer (II), based upon the total weight of the polymer taken as 100% by weight.

26. (Original) The structure of claim 23, said first protective layer having an average thickness of from about 1-5  $\mu\text{m}$ .

27. (Canceled)

28. (Original) The structure of claim 23, said primer layer having an average thickness of less than about 10 nm.

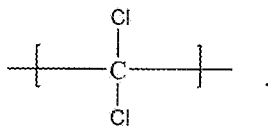
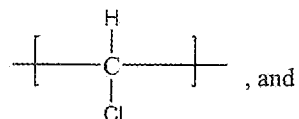
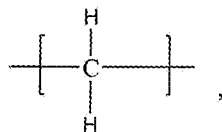
29. (Canceled)

30. (Original) The structure of claim 23, said structure further comprising a second protective layer adjacent said first protective layer.

31. (Original) The structure of claim 30, said second protective layer comprising a halogenated polymer.

32. (Original) The structure of claim 31, said halogenated polymer comprising at least about 50% by weight halogen atoms, based upon the total weight of the halogenated polymer taken as 100% by weight.

33. (Original) The structure of claim 31, wherein said halogenated polymer is a chlorinated polymer comprising recurring monomers having the formula



34. (Original) The structure of claim 31, wherein said halogenated polymer is a chlorinated polymer selected from the group consisting of poly(vinyl chloride), polyvinylidene chloride, poly(vinylidene dichloride)-co-poly(vinyl chloride), chlorinated ethylene, chlorinated propylene, chlorinated rubbers, and mixtures thereof.

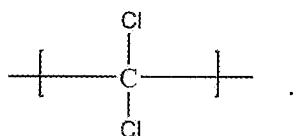
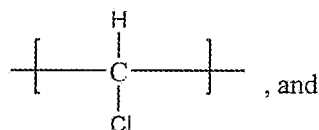
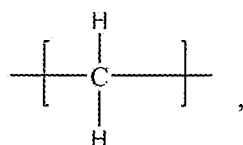
35. (Original) The structure of claim 23, wherein said microelectronic substrate is selected from the group consisting of Si substrates, SiO<sub>2</sub> substrates, Si<sub>3</sub>N<sub>4</sub> substrates, SiO<sub>2</sub> on silicon substrates, Si<sub>3</sub>N<sub>4</sub> on silicon substrates, glass substrates, quartz substrates, ceramic substrates, semiconductor substrates, and metal substrates.

36. (Original) The structure of claim 30, wherein said microelectronic substrate is selected from the group consisting of Si substrates, SiO<sub>2</sub> substrates, Si<sub>3</sub>N<sub>4</sub> substrates, SiO<sub>2</sub> on silicon substrates, Si<sub>3</sub>N<sub>4</sub> on silicon substrates, glass substrates, quartz substrates, ceramic substrates, semiconductor substrates, and metal substrates.

37-68. (Canceled)

69. (Withdrawn) A microelectronic structure comprising:
- a microelectronic substrate having a surface;
  - a primer layer adjacent said substrate surface;
  - a first protective layer adjacent said primer layer, said first protective layer comprising a polymer dispersed or dissolved in a solvent system; and
  - a second protective layer adjacent said first protective layer, said second protective layer comprising a halogenated polymer dispersed or dissolved in a solvent system.
70. (Withdrawn) The structure of claim 69, wherein said halogenated polymer comprises a chlorinated polymer.
71. (Withdrawn) The structure of claim 70, wherein said chlorinated polymer comprises at least about 50% by weight chlorine atoms, based upon the total weight of the chlorinated polymer taken as 100% by weight.

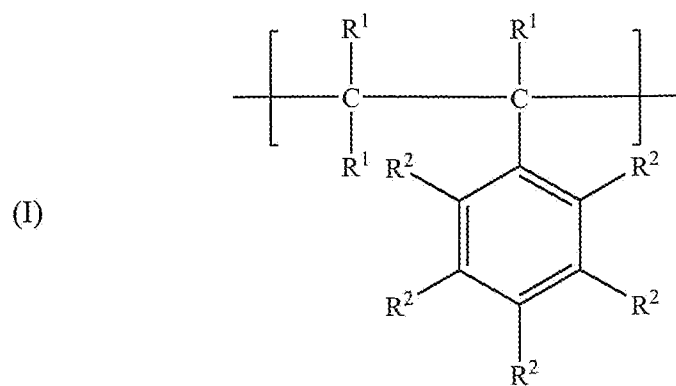
72. (Withdrawn) The structure of claim 70, wherein said halogenated polymer is a chlorinated polymer comprising recurring monomers having the formula



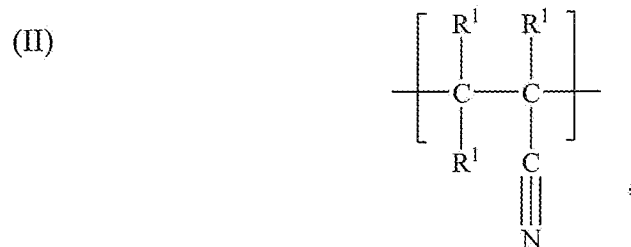
73. (Withdrawn) The structure of claim 70, wherein said halogenated polymer is selected from the group consisting of poly(vinyl chloride), polyvinylidene chloride, poly(vinylidene dichloride)-co-poly(vinyl chloride), chlorinated ethylene, chlorinated propylene, chlorinated rubbers, and mixtures thereof.



74. (Withdrawn) The structure of claim 69, wherein said first protective layer comprises a polymer comprising recurring monomers having the respective formulas



and



wherein:

each  $\text{R}^1$  is individually selected from the group consisting of hydrogen and

$\text{C}_1$ - $\text{C}_8$  alkyls; and

each  $\text{R}^2$  is individually selected from the group consisting of hydrogen,  $\text{C}_1$ - $\text{C}_8$

alkyls, and  $\text{C}_1$ - $\text{C}_8$  alkoxys.

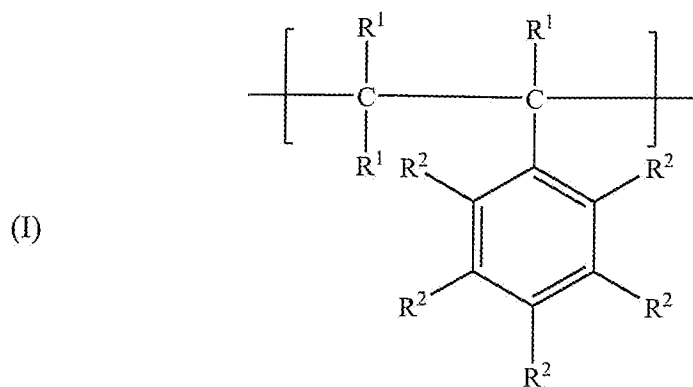
75-77. (Canceled)

78. (New) A microelectronic structure comprising:

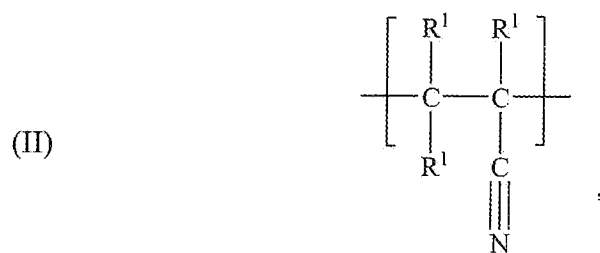
a microelectronic substrate having a surface, said microelectronic substrate being selected from the group consisting of Si substrates, SiO<sub>2</sub> substrates, Si<sub>3</sub>N<sub>4</sub> substrates, SiO<sub>2</sub> on silicon substrates, Si<sub>3</sub>N<sub>4</sub> on silicon substrates, quartz substrates, ceramic substrates, and semiconductor substrates;

a primer layer adjacent said substrate surface; and

a first protective layer adjacent said primer layer, said first protective layer including a polymer comprising recurring monomers having the respective formulas



and



wherein:

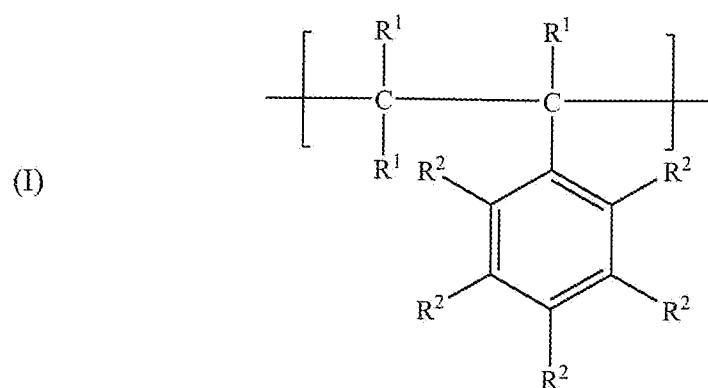
each  $R^1$  is individually selected from the group consisting of hydrogen and

$C_1$ - $C_8$  alkyls; and

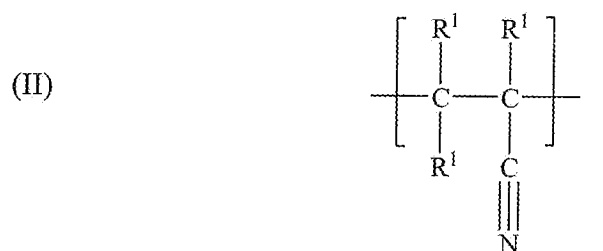
each  $R^2$  is individually selected from the group consisting of hydrogen,  $C_1$ - $C_8$

alkyls, and  $C_1$ - $C_8$  alkoxys.

79. (New) A microelectronic structure comprising:
- a microelectronic substrate having a surface;
  - a primer layer adjacent said substrate surface; and
  - a first protective layer adjacent said primer layer, said first protective layer including a polymer comprising recurring monomers having the respective formulas



and



wherein:

each R<sup>1</sup> is individually selected from the group consisting of hydrogen and C<sub>1</sub>-C<sub>8</sub> alkyls; and